supplying a first fluidizing gas as an upward flow into said first area, supplying a second fluidizing gas as an upward flow into said second area, and supplying heat recovery region fluidizing gas to said heat recovery region;

controlling a mass flow of said first fluidizing gas to be smaller than a mass flow of said second fluidizing gas to create in said first area a moving bed where said fluidized medium descends and is dispersed and to create in said second area a fluidized bed where said fluidized medium is fluidized, whereby said combustibles are gasified into a combustible gas in said combustion region while circulating therein with said fluidized medium; and

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flowing said fluidized medium from said combustion region over said partition wall into said heat recovery region, and returning said fluidized medium in said heat recovery region to said combustion region; and

said controlling comprises adjusting said supplying said heat recovery region fluidizing gas to said heat recovery region.

16. (Amended) A method as claimed in claim 20, wherein said fluidized-bed furnace has a substantially circular cross-sectional shape, said combustion region comprises a circular central region, said heat recovery region comprises an outer peripheral region, said combustion region and said heat recovery region are separated by a partition wall and are connected above and below said partition wall, said combustion region includes central and peripheral areas adjacent to each other, and further comprising:

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supplying a central fluidizing gas as an upward flow into said central area, supplying a peripheral fluidizing gas as an upward flow into said peripheral area, and supplying heat recovery region fluidizing gas to said heat recovery region;

controlling a mass flow of one of said central fluidizing gas and said peripheral fluidizing gas to be smaller than a mass flow of the other of said peripheral fluidizing gas and said central fluidizing gas, to create in one of said central area and said peripheral area a moving bed where said fluidized medium descends and is dispersed and to create in the other of said peripheral area and said central area a fluidized bed where said fluidized medium is fluidized, whereby said combustibles are gasified into a combustible gas in said combustion region while circulating therein with said fluidized medium; and

C2

flowing said fluidized medium from said combustion region over said partition wall into said heat recovery region, and returning said fluidized medium in said heat recovery region to said combustion region; and

said controlling comprises adjusting said supplying said heat recovery region fluidizing gas to said heat recovery region.

20. (Amended) A method of treating combustibles, said method comprising:

circulating a fluidized medium between a combustion region and a heat recovery region within a bed of a fluidized-bed furnace such that said fluidized medium is heated in said combustion region;

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gasifying combustibles in said combustion region of said fluidized-bed furnace, thus generating combustible gas and non-combusted particles;

recovering heat from said fluidized medium in said heat recovery region of said fluidized-bed furnace after said fluidized medium has been heated in said combustion region, so as to thereby control a temperature of said bed; and

C3 delivering said combustible gas and non-combusted particles to a melt combustion furnace and therein combusting said combustible gas and melting non-combustible ash of said non-combusted particles.

Kindly cancel claim 21 presently pending in the application without prejudice.

Kindly amend claims 22-24 as shown below.

22. (Amended) An apparatus as claimed in claim 24, wherein said combustion region and said heat recovery region are separated by a partition wall, said combustion region includes first and second areas adjacent to each other, and further comprising:

an air diffusion device to supply a first fluidizing gas as an upward flow into said first area, C4 to supply a second fluidizing gas as an upward flow into said second area, and to supply heat recovery region fluidizing gas to said heat recovery region, said air diffusion device being structured such that a mass flow of said first fluidizing gas is smaller than a mass flow of said second fluidizing gas to create in said first area a moving bed where said fluidized medium descends and is dispersed and to create in said second area a fluidized bed where said fluidized medium is fluidized, whereby said combustibles are gasified into a combustible gas in said combustion region while circulating therein with said fluidized medium; and wherein

said combustion region and said heat recovery region are connected above and below said partition wall, to allow said fluidized medium from said combustion region to flow over said partition wall into said heat recovery region;

said heat recovery surface comprises a member in said heat recovery region for a medium to pass therethrough; and

said air diffusion device includes a heat recovery region air diffuser at a bottom of said heat recovery region, said heat recovery air diffuser being structured to adjust the supply of said heat recovery region fluidizing gas to said heat recovery region to cause said fluidized medium in said heat recovery region to descend therein as a moving bed and to circulate therefrom below said partition wall back to said combustion region.

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23. (Amended) An apparatus as claimed in claim 24, wherein said fluidized-bed furnace has a substantially circular cross-sectional shape, said combustion region comprises a circular central region, said heat recovery region comprises a peripheral region, said combustion region and said heat recovery region are separated by a partition wall, said combustion region includes central and peripheral areas adjacent to each other, and further comprising:

an air diffusion device to supply a central fluidizing gas as an upward flow into said central area, to supply a peripheral fluidizing gas as an upward flow into said peripheral area, and to supply heat recovery region fluidizing gas to said heat recovery region, said air diffusion device being structured such that a mass flow of one of said central fluidizing gas and said peripheral fluidizing gas is smaller than a mass flow of the other of said peripheral fluidizing gas and said central fluidizing gas

to create in one of said central area and said peripheral area a moving bed where said fluidized medium descends and is dispersed and to create in the other of said peripheral area and said central area a fluidized bed where said fluidized medium is fluidized, whereby said combustibles are gasified into a combustible gas in said combustion region while circulating therein with said fluidized medium; and wherein

said combustion region and said heat recovery region are connected above and below said partition wall, to allow said fluidized medium from said combustion region to flow over said partition wall into said heat recovery region;

LAM said heat recovery surface comprises a member in said heat recovery region for a medium to pass therethrough; and

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said air diffusion device includes a heat recovery region air diffuser at a bottom of said heat recovery region, said heat recovery air diffuser being structured to adjust the supply of said heat recovery region fluidizing gas to said heat recovery region to cause said fluidized medium in said heat recovery region to descend therein as a moving bed and to circulate therefrom below said partition wall back to said combustion region.

24. (Amended) An apparatus for treating combustibles, said apparatus comprising:

a fluidized-bed furnace including a bed having a combustion region for gasifying combustibles so as to generate combustible gas and non-combusted particles, and having a heat recovery region, said fluidized-bed furnace further including a fluidized medium operable to circulate between said combustion region, whereat said fluidized medium is heated, and said heat recovery region;

a heat recovery surface in said heat recovery region for recovering heat from said fluidized medium after said fluidized medium has been heated in said in said combustion region, so as to thereby control a temperature of said bed; and

C4 a melt combustion furnace for receiving the combustible gas and the non-combusted particles and for combusting the combustible gas and melting non-combustible ash of the non-combusted particles.

Kindly add the following new claims 25-28.

-- 25. A method of treating combustibles, said method comprising:

circulating a fluidized medium between a combustion region and a heat recovery region within a bed of a fluidized-bed furnace such that said fluidized medium is heated in said combustion region;

gasifying combustibles in said combustion region, thus generating combustible gas and non-

C5 combusted particles;

recovering heat from said fluidized medium after said fluidized medium has been heated in said combustion region; and

delivering said combustible gas and non-combusted particles to a melt combustion furnace and therein combusting said combustible gas and melting non-combustible ash of said non-combusted particles.

26. A method as claimed in claim 25, further comprising maintaining said bed of said fluidized-bed furnace at a temperature of 450°C to 800°C, and wherein said melting of said non-combustible ash of said non-combustible particles is conducted at a temperature of at least 1300°C.

27. An apparatus for treating combustibles, said apparatus comprising:

a fluidized-bed furnace including a bed having a combustion region for gasifying combustibles so as to generate combustible gas and non-combusted particles, and having a heat recovery region, said fluidized-bed furnace further including a fluidized medium operable to circulate between said combustion region and said heat recovery region;

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a heat recovery surface in said heat recovery region for recovering heat from said fluidized medium after said fluidized medium has been heated in said combustion region; and

a melt combustion furnace for receiving the combustible gas and the non-combusted particles and for combusting the combustible gas and melting non-combustible ash of the non-combusted particles.

28. An apparatus as claimed in claim 27, wherein said heat recovery surface is operable to recover heat from said fluidized medium so as to maintain said bed of said fluidized-bed furnace at a temperature of 450°C to 800°C, and wherein said melt combustion furnace is operable to melt said non-combustible ash of said non-combustible particles at a temperature of at least 1300°C.--